

## MESENTERIC AND OMENTAL CYSTS\*

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It is the purpose of this paper to report five cases of mesenteric and one case of omental cyst, operated upon without mortality; to record a correct pre-operative diagnosis; and to offer a suggestion as to a method of surgical treatment, in selected instances, which, so far as I am aware, has not hitherto been proposed.

Since 1507, when Benevieni, a Florentine anatomist, found at autopsy and recorded it as an anatomical marvel, there have been published between 250 and 300 cases of mesenteric cysts. In 1852, Gairdner reported before the Pathological Society of London an autopsy specimen of an omental cyst, since which time there have been published slightly over fifty cases. The ratio of mesenteric to omental cysts is about 5 to 1. The two conditions are considered similar in origin and histological structure.

The theories of the older pathologists regarding the genesis of mesenteric cysts were clouded in obscurity and uncertainty. Such cysts were thought to result from "lymph stasis and from cystic degeneration of a lipoma or of tuberculous glands." Dowd's paper,<sup>1</sup> in 1900, was notable for its clearness and originality, and for the renewed interest in this subject which its publication aroused. He stated his belief that such cysts developed from embryonic remnants and sequestrated intestinal tissue and he suggested that they be classified as (1) embryonic; (2) hydatid; and (3) cystic malignant disease.

Niosi,<sup>2</sup> in 1907, expressed the opinion that about one-half of all mesenteric cysts are acquired, and he placed the so-called lymphatic and chylous types in this category. He classified embryonic mesenteric cysts as:

- (1) Cysts of intestinal origin:
  - (a) By sequestration from the bowel during development.
  - (b) From Meckel's diverticulum, when it arises from the concave side of the bowel or (as Miller has added) acquires an intramesenteric position.
- (2) Dermoid cysts.
- (3) Cysts arising from retroperitoneal organs, *viz.*—urogenital organs (germinal epithelium, ovary, Wolffian body or Mullerian duct).

Eric Gould,<sup>3</sup> in 1913, believed the following to be simplest and most correct pathological classification:

- (1) Cysts arising from embryonic remnants and sequestrated tissue: (a) serous; (b) chylous; (c) sanguineous; (d) dermoids; (e) cysts from intestinal diverticula.

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- (2) Cysts of infective origin: (a) hydatids and (b) tuberculous abscesses.
- (3) Malignant cysts.

Higgins and Lloyd,<sup>4</sup> in 1924, say that "such adjectives as lymphatic, chylous, sanguinous, though frequently used, merely denote accidents which may befall any cyst, and, though picturesque, they have no precise bearing on the problems of etiology and serve no useful purpose." Out of the mass of material studied, and the classifications reviewed, they offer these conclusions:

- (1) True mesenteric cysts are not malignant, parasitic or dermoid, but form a separate group in which are included the majority of all "mesenteric cysts."
- (2) Their origin is still in doubt, but it seems probable that there are two classes:
  - (a) Cysts of embryonic origin arising from mesodermal remnants incarcerated behind the developing peritoneum and subsequently migrating forward between its layers.
  - (b) Cysts of intestinal origin: (1) Arising in most cases as diverticula from the bowel during development; (2) possibly derived sometimes from persistent portions of the vitelline duct.
- (3) Anomalous and hitherto unclassified cysts, such as pararenal.

Mesenteric cysts occur somewhat more frequently in the female than in the male sex. They have been found at all ages—in the foetus and in an octogenarian. They may be single or multiple, unilocular or multilocular, and may vary in size from that of an olive to enormous growths filling the abdominal cavity. The original histological picture may be so altered from hæmorrhage, pressure, inflammation or malignant degeneration that it is difficult for the pathologist to render a satisfactory report as to the origin and structure of the cyst.

CASE REPORTS.—CASE I.—J. M., male, aged five years and ten months, of Italian parentage, was admitted to the Post-Graduate Hospital December 26, 1917, with a history of generalized abdominal pain, which had localized in the right lower quadrant, accompanied by nausea, vomiting and obstinate constipation.

Two years ago it was noticed that the boy's abdomen was growing larger and an exploratory operation a year later revealed a tuberculous peritonitis. The abdominal cavity was flushed out with full strength hydrogen peroxide and closed without drainage. It could not be learned from the history just what type of tuberculous peritonitis was found.

Physical examination was negative except for muscular spasm, resistance, and marked tenderness in right lower abdominal quadrant, and the presence of a very tender tumor mass. A diagnosis of acute appendicitis with abscess was made, and the patient was sent at once to the operating room.

On opening the abdomen the appendix was delivered, but failed to show any active inflammation. However, in the mesentery of the lower ileum, near the ileocolic angle, a cystic tumor, yellow in color, about eight by four by four centimetres in size, was found. Enucleation of the cyst could not be wholly accomplished, without sacrificing a relatively large blood-vessel, which was feared would result in gangrene of a small area of intestine. Rather than do a bowel resection, a small segment of the cyst wall, containing the blood-vessel, was left behind, the major portion of the cyst being removed. Carbolic acid followed by alcohol were applied to the remaining cyst membrane, which was then brought up to the abdominal incision, and the wound was closed in layers, except at a point where a narrow strip of iodoform gauze went down to the segment of the cyst wall left behind. Healing was prompt and without sinus formation or recurrence of the cyst. Patient was discharged two and one-half weeks after opera-

tion. An interesting observation at the time was the fact that there was absolutely no other evidence of the tuberculous peritonitis which had been found at operation a year before.

*Pathological report* (Dr. L. H. Meeker).—*Gross*.—Specimen is an opened sac, the size of a lemon. The surface is hæmorrhagic and at one side are thickened reduplications of peritoneum. The wall varies in thickness from  $\frac{1}{2}$  millimetre to  $\frac{3}{8}$  millimetre, is fibrous, and clinging to the inner side is caseous white granular material. At one point, beneath the entangled peritoneum, are small packets of this material. The wall is tough fibrous tissue.

*Microscopical*.—Under a capsule of dense fibrous tissue is an admixture of semi-necrotic areas of fibroblastic and epithelioid cells, coalescing and frequently showing giant cells of the foreign-body type. All this tissue is invaded by round cells and surrounds a caseous core. No normal grand tissue remains.

*Diagnosis*.—Probably cystic degeneration of a tuberculous lymph-node.

CASE II.—C. P., a woman, aged thirty-one years, married for fifteen years, but never pregnant, was admitted to the Post-Graduate Hospital, June 24, 1918, complaining of great weakness and fatigue, backache, abdominal discomfort, constipation, etc. Only three weeks before had she become aware of the presence of a large tumor in her lower abdomen. Although menstruation had been regular previously, for over a year there had been no menstrual flow. There was no appreciable loss of weight, in spite of two weeks' confinement to bed and a restricted diet.

Physical examination showed nothing of importance except a large, tense, symmetrical tumor in the lower abdomen, apparently rising out of the pelvis. The tumor did not move with respiration, was flat on percussion, and showed no pulsation. No foetal heart sounds could be heard. Vaginal examination showed the cervix crowded down to the vaginal introitus; the body of the uterus could not be mapped out. Rectal examination was negative, except for the presence of the large cystic tumor. *Diagnosis*.—Ovarian cyst.

When the abdomen was opened a large cyst was seen, with evidences of both old and recent active peritonitis. The coils of intestine were so adherent to the cyst that it could not be delivered or shelled out of its mesenteric bed. There was no connection whatever with the ovaries. The cyst was opened and a large quantity, probably over a gallon, of dark, straw-colored, serous fluid was evacuated. A section of the cyst was removed for histological study, then marsupialization and packing of the cyst cavity with washed-out iodoform gauze completed the operation. The first ten post-operative days were rather stormy. The profuse serosanguineous discharge necessitated frequent changes of dressing. The discharge rapidly lessened and the patient returned to her home three and one-half weeks after operation. The sinus was entirely healed at the end of three months, and the patient has remained well, without any abdominal complications since.

*Pathological report* (Dr. L. H. Meeker).—*Gross*.—Specimen is a portion of a cyst wall roughly seven by two centimetres. One side is fairly smooth and the other is granular and hæmorrhagic. One wall is several millimetres thick and is very tough.

*Microscopical*.—The cyst wall is composed of layers of fibrin with few fibroblasts and scattered blood-vessels, and some round cells. One-half its thickness presents a classical picture of foreign-body giant cells which have ingested cholesterol crystals. It would seem that adhesions have created a cyst the contents of which included cholesterol. *Diagnosis*.—Simple cyst within adhesions.

CASE III.—S. C., male, aged six years, of healthy Italian parentage, was admitted to the Babies' Wards, Post-Graduate Hospital, April 28, 1927. At fifteen months of age the boy had had, in the order named, measles, whooping-cough, pneumonia and multiple furuncles, from which he made a good recovery. At four years of age, it was noticed that his abdomen was somewhat larger than normal, but otherwise he seemed perfectly well. Three weeks before admission there developed an acute attack of ab-

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dominal pain, with high fever, vomiting and constipation, but the attack subsided after three or four days. No definite diagnosis was made at this time. Upon admission, the examination revealed an irregular enlargement of the abdomen and an acute right-sided epididymitis. A large, movable, nodular, tense, cystic mass, occupying the right side of the abdomen and extending over beyond the median line, could be felt. In the left upper abdomen there was distended tympanitic bowel.

May 6, 1927, the abdomen was opened and the tumor mass was found to be a large cyst and two smaller cysts of the mesentery, grouped together and intimately connected with the lower ileum. It could be lifted out of the abdomen easily. An attempt was made to enucleate the cysts from the mesentery but it was found impossible of accomplishment, without sacrificing the blood supply to the bowel. It was necessary to resect about eight inches of intestine in order to remove the tumors. An end-to-end suture anastomosis of the ileum was performed without difficulty. The patient made a prompt and uninterrupted recovery and was able to leave the hospital two weeks after operation.

*Pathological report* (Ward J. MacNeal, M.D.).—*Gross*.—Specimen measured 160 by 115 by 80 millimetres. It included a portion of intestine, apparently the small intestine, 110 millimetres long and ten to twenty-two millimetres in diameter. Intimately attached at one side of this piece of gut there were three cysts; one was sixty millimetres, another thirty-five millimetres, and the other 120 millimetres in diameter. These were opened. The wall of the cysts in each case was about one and one-half millimetres thick.

*Microscopical*.—Sections through the wall of the intestine including the wall of one of the adjacent cysts showed moderate inflammatory reaction in the mucous membrane of the gut and some thickening of the muscular coats. The cyst was lined by granulation tissue in which there were abundant clefts from which lipoid material had been dissolved out. In this granulation tissue there were abundant multinucleated giant cells of the foreign-body type. The superficial portion of the lining was necrotic. It was impossible to recognize any elements of intestinal mucous membrane in the lining of the cyst in these sections. *Diagnosis*.—Multiple cysts of the mesentery intimately attached to the small intestine, of unrecognized origin.

Dr. Nicholas M. Alter later examined the specimen and reported as follows: "The description by Doctor MacNeal fits the microscopical picture accurately. I do not think the cyst is of intestinal origin or derived from the omphaloenteric duct. I think it should fall in Gould's classification (Group I), of embryonic cysts of chylous origin. In the lower layer of the cyst wall there are very numerous dilated lymph-vessels and chylous cells are seen in many of these dilations."

CASE IV.—S. S., a man, aged fifty-nine years, born in Russia, was admitted to the Post-Graduate Hospital, October 15, 1929, complaining of gradual loss of weight (15 pounds) and strength, increasing constipation with subacute attacks of intestinal obstruction. Appetite poor, digestion fair, some nausea, but no actual vomiting. No blood or pus in stools. Symptoms began about six months ago. After an X-ray study of the gastro-intestinal tract, in a Brooklyn Hospital, a diagnosis was made of "carcinoma of the ascending colon."

The general physical examination revealed nothing of importance. Abdominal examination showed considerable tumefaction on the right side, about opposite the umbilicus, and the diagnosis of carcinoma of the colon seemed probable.

Upon opening the abdomen a large, hard mass was at once encountered, but it involved the ileum and not the large intestine. Coils of ileum were adherent about this tumor, which was thought to be a new growth in the ileum, with extensive metastasis in the mesentery. The involved bowel and mesentery were widely resected, followed by an end-to-end suture anastomosis. The patient stood the operation well, but his convalescence was unusually stormy and exciting. He finally made a good recovery, except for an incisional hernia.

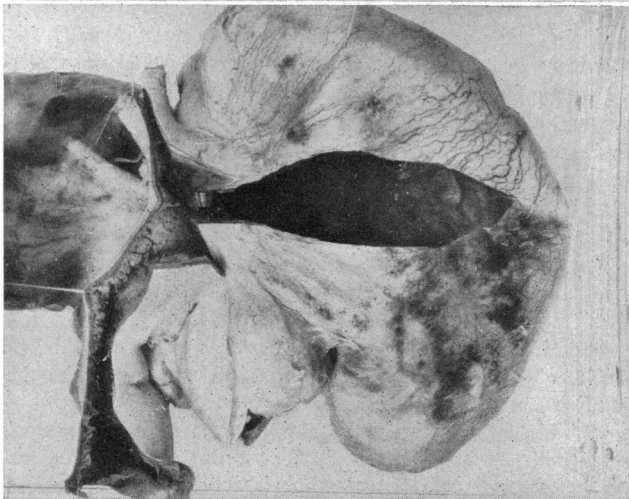


FIG. 1.—Case III. Multiple cysts of the mesentery. Note narrowing of intestine from pressure.

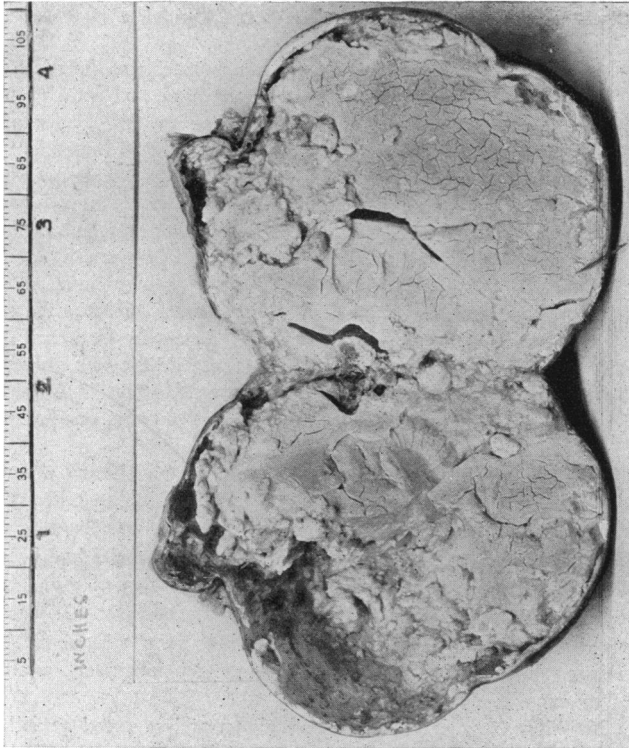


FIG. 2.—Case V. Mesenteric cyst filled with thick sebaceous material. Two smaller cysts had similar contents.

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*Pathological report* (Dr. Nicholas M. Alter).—*Gross*.—Specimen consists of a large portion of the small intestine with mesentery attached. It measures 280 centimetres (about nine and one-half feet) in length. The loops of the small intestine are moderately distended and are firmly adherent to a central mass which seems to come up from near the ileum about fifteen centimetres from the surgical stump of the ileum and from this extends into the mesentery which is adherent to the other loops of the intestine. This mass is very hard in consistency and measures about ten centimetres in diameter. On opening no obstruction is encountered. The lumen of the ileum is free. From the ileum a cystic cavity is opening which has an orifice six centimetres in diameter. This leads into a somewhat larger cavity which contains a great deal of greenish vegetable matter, a large amount of mucus and broken-down necrotic material and the wall is covered with a polypoid growth which is very hard at the base and on section shows gray translucent appearance. The growth is very hard, cartilaginous almost.

*Microscopical*.—Section of the growth shows neoplastic proliferation of small polygonal cells with large vesicular nuclei. The cells are quite anaplastic, show great variety of size and shape and form a rather diffuse growth. There is a suggestion only here and there of glandular structures and there is a vascular stroma. The growth ulcerates over the mucosa and infiltrates the muscle layer but has a rather sharp border.

*Diagnosis*.—Embryonal carcinoma of mesenteric cyst.

January 14, 1932, two and one-quarter years after the operation already described, the patient was operated upon for the repair of the incisional hernia. Upon exploration of the abdomen the exact site of the anastomosis could not be determined, so perfect was the union, and it is gratifying to report that there was absolutely no evidence of recurrence of the malignant disease.

CASE V.—Mrs. E. G., twenty-six years of age, was seen in consultation with Dr. A. A. Weiss, of this city, April 10, 1930. Three or four days before she had complained of abdominal pain, which had localized in the right lower abdomen. The pain was not severe, but as it persisted, the family physician was called. There was some nausea, but no vomiting. Bowels, usually regular, were constipated. There was only slight elevation of temperature, the urine was negative, and a blood examination showed some increase in the total leucocytes and the percentage of polymorphonuclear cells. The patient has always considered herself an exceptionally healthy individual.

The physical examination was negative except for rather marked tenderness over McBurney's point, with some muscular spasm and resistance. In the course of the examination, however, a rounded, freely movable, non-tender tumor was discovered, just to the right of and below the umbilicus. When questioned about it the patient said that she had known of its presence since she was sixteen years of age, but as it had never caused her any inconvenience whatever, it gave her no concern. She entered Post-Graduate Hospital that night and was operated upon early the following morning.

The abdomen was entered through a pararectus (Kammerer) incision. The appendix was readily delivered and removed. The ileum was then pulled up and a tumor mass consisting of three mesenteric cysts in the lower ileum was delivered. These cysts were carefully enucleated from the mesentery, without any damage to the blood supply of the bowel. The openings in the mesentery were closed with plain catgut sutures. The immediate clinical diagnosis was recorded as "subacute appendicitis" and "dermoid cysts (3) of the mesentery." One of the cysts was opened during its removal and was filled with thick sebaceous material. Although no hair or bone was discovered the contents of the cyst looked typical of the usual material found in dermoid cysts.

Following operation the patient suffered considerable nausea, vomiting, and abdominal discomfort for two or three days, after which time she made an unusually smooth convalescence, and was able to leave the hospital on the ninth post-operative day. Her health has been perfect since the operation.

*Pathological report* (Dr. W. J. MacNeal).—*Gross*.—Appendix is fifty-six millimetres long and seven to eight millimetres in diameter. On section the lumen extends to the

tip. In it there is one very firm lump ten by four by three millimetres, dark brown in color, apparently a fecolith.

Second specimen appears to have been a cyst about thirty millimetres in diameter with a wall one to two millimetres in thickness, rather firm. The material in the interior is in part soft cheesy stuff and in part is calcified.

Third specimen is a cyst seventy-two by sixty by forty-six millimetres. This is said by Doctor Peterson to resemble the cyst which has been broken open and this second cyst is left intact by his request.

*Microscopical.*—Sections of the appendix show partial loss of lining mucous membrane with purulent exudate extending into the submucous layer in the regions of ulceration. The muscular coats and the subserous coat are very œdematous and richly infiltrated by lymphocytes and plasma cells with smaller numbers of polymorphonuclear leucocytes intermingled.

Sections of the wall of the opened cyst show a lining of necrotic material beneath which there is a zone of epithelioid cells containing occasional poorly defined multinucleated giant cells and intermingled with lymphocytes. External to this there is a layer of fibrous tissue containing abundant lymphocytes and at one place a small nodule of epithelioid cells suggesting a small tubercle.

*Diagnosis.*—(1) Acute purulent exacerbation of a chronic appendicitis; subacute peri-appendicitis. (2) The diagnosis is somewhat uncertain, as tubercle bacilli have not been demonstrated in the cyst. However, the diagnosis of tuberculosis seems most probable.

OMENTAL CYST.—CASE I.—J. B., aged four years, admitted to Post-Graduate Hospital, February 27, 1921, complaining of abdominal pain and fever, but no vomiting. Bowels had moved normally the day before. Patient looked sick. Lips covered with fever blisters. Had previously had measles and chicken-pox. When fourteen months old had been operated upon for mastoid trouble.

Physical examination negative except for slight distension, marked tenderness and board-like rigidity over the whole lower abdomen. It was not possible to make a satisfactory examination without giving an anæsthetic. *Impression.*—Acute appendicitis with peritonitis. Patient sent at once to operating room for emergency operation. Upon entering the abdomen a cystic tumor mass, in the large omentum, was recognized at once. The appendix showed no gross pathology, but was removed as a prophylactic measure. The cyst-bearing omentum was resected with ease. The patient made a prompt and uninterrupted recovery.

*Pathological report* (Dr. Nicholas M. Alter).—*Gross.*—Specimen consists of a cystic mass with some fatty tissue attached, evidently portion of the omentum. The mass is lobulated, cystic, well encapsulated. Some of the cysts are evidently leaking clear serous fluid. The mass measures about 11 by eight by four centimetres. On section multilocular cavities are seen filled with yellowish jelly-like material and some white membranes. Otherwise the cysts seem to have smooth but congested lining. The wall of the cyst averages two to three millimetres and is fibrotic. The outer surface is covered with fibrous and fatty tags.

*Microscopical.*—Section shows some endothelial lining of the cyst. The endothelial cells are quite hyperplastic in many places. The surface is covered with some mucoid fibrinous material which contains a great many polymorphonuclear leucocytes. These polymorphonuclear leucocytes also infiltrate the entire wall which otherwise consists of loose fibrous structure.

*Diagnosis.*—Congenital peritoneal cyst of omentum with acute secondary infection.

*Comment.*—Omental cysts are similar in origin and structure to mesenteric cysts. The surgical treatment is, as a rule, a very simple matter and the mortality in the reported cases said to be about 6 per cent. The symptoms in my case were caused by inflammation of the cysts and local peritonitis.

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**SUMMARY.**—*Symptoms and diagnosis.*—In the first case the symptoms were typical of acute appendicitis, *viz.*, abdominal pain, general in character at first, later localizing in the right lower quadrant, nausea, vomiting and constipation, with muscular rigidity and spasm and marked localized tenderness. Pre-operative diagnosis—acute appendicitis with abscess; post-operative and pathological diagnosis—cystic degeneration of a tuberculous lymph-node.

In the second case the symptoms of weakness and fatigue, backache, abdominal pain, constipation, and the downward displacement of the uterus, were caused by peritonitis and pressure. The preliminary diagnosis of ovarian cyst was incorrect. The pathological diagnosis of simple cyst due to foreign body (?), or gauze sponge from previous operation (?) is incorrect too, for the patient had undergone no previous operation. This is believed to be one of the rare, intraperitoneal cysts, of *nephrogenic* origin, in Group III, of Ewing's classification.\* These cysts occur chiefly in adult women, are of large size, single or multilocular, involve the mesentery or adjacent regions or extend into the pelvis. The contents are brownish, serous fluid, containing pseudomucin.

In the third case the symptoms were of chronic intestinal obstruction, due to pressure-narrowing of the bowel by the cysts. (Intestinal obstruction, either acute or chronic, is the most important and frequent complication of mesenteric cysts. It may be from volvulus, intussusception, kinking and pressure-narrowing or occlusion of the adjacent intestine. Other complications are (1) hæmorrhage into the cyst, (2) torsion of the cyst, and (3) rupture of the cyst. In this case the diagnosis should have been made. Practically everything but mesenteric cyst was considered and it was not even thought of. The pathological diagnosis was embryonic mesenteric cyst of the chylous type.

In the fourth case the symptoms were of chronic intestinal obstruction, with subacute exacerbations. The preliminary diagnosis of a malignant growth of the intestine, causing obstructive symptoms, was again wrong. The pathological diagnosis of "carcinoma of an embryonal mesenteric cyst" places the case in a most remarkable and unusual class. Cystic malignant disease of the mesentery is not uncommon, but malignancy developing in an embryonic mesenteric cyst is both interesting and rare. Doctor Alter's microscopical report stating "the growth ulcerates over the mucosa and infiltrates the muscle layer" and the further observation that there was an opening from the ileum into the cyst, would make it highly probable that it was an enterogenous cyst, which had undergone malignant degeneration.

In the fifth case there were no symptoms whatever attributable to the mesenteric cysts. During an examination of a patient suffering from an attack of acute appendicitis, a movable, tense, cystic, non-tender abdominal

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\* Dr. James Ewing was kind enough to review the case histories and pathological reports in this series of cases. In Case II, he agreed that the mesenteric cyst was probably of nephrogenic origin.



tumor was felt. The patient had known of its presence for a number of years. A pre-operative diagnosis of mesenteric cyst was made and recorded, and on the following day was confirmed at operation. A tumor mass, consisting of three mesenteric cysts in the lower ileum, was delivered and the cysts enucleated. The clinical diagnosis was *dermoid cysts* of the mesentery, but the pathologist, Doctor MacNeal, while not positive, says they are probably tuberculous.

*Treatment.*—The treatment of mesenteric cysts can be considered under the following headings: (1) Enucleation; (2) resection; and (3) drainage.

(1) *Enucleation.*—This is the ideal operation and should be the method of choice when and where it can be accomplished without damage to the bowel or to the vascular supply thereof. From a study of the reported cases it is probable that this procedure is applicable in about one-third of all cases. Flynn gives the mortality following this operation at about 16 per cent. Enucleation could be done in but one of my cases.

(2) *Resection.*—By resection is meant the extirpation of the cyst or cysts and the resection of the involved bowel, with the establishment of some type of intestinal anastomosis. This operation is called for often—probably in one-fourth to one-third of the cases encountered. Unfortunately the mortality following resection is high—about 60 per cent. This can be explained by the fact that many of the emergency operations in which it is done are performed for the relief of acute intestinal obstruction, or in the presence of acute peritonitis. It is indicated when a successful enucleation cannot be completed and when marsupialization—drainage does not relieve or is apt to be followed by intestinal obstruction. Resection was performed in two, or 40 per cent, of my cases.

(3) *Drainage.*—When the size of the cyst or dense intestinal adhesions or other complications make the removal of the tumor a dangerous procedure, then some form of drainage of the cyst is called for. Simple wick or tube drainage is, in my opinion, inferior to gauze packing of the cyst cavity. Carter, Swartley, and others consider marsupialization obsolete, save in very exceptional instances. Flynn thinks it applicable only in parasitic cysts or in large unilocular cysts where the removal of the tumor is extremely hazardous. Despite the immediate theoretical dangers (of infection, peritonitis, intestinal obstruction) and the possible remote complications (recurrence of the cyst, persistent sinus, hernia, late intestinal obstruction, *etc.*) a study of the many isolated cases—reports in which this method was used, with both early and late good results—is convincing proof that the objections to it are more fanciful than real. It should never be employed in dermoid cysts nor as a make-shift or “way out” when enucleation can be accomplished or when resection is indicated. It is relatively safe and simple, with a mortality of only about 6 per cent., and a morbidity that is surprisingly slight. The gratifying outcome in my second case, in which no other plan of treatment seemed feasible, is offered as evidence of its value.

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Is there no other plan of surgical treatment to be employed, when enucleation cannot be done; when resection, with its high mortality, should be avoided; and when drainage, with its protracted convalescence, is deemed inadvisable? It is fully realized that such cysts as sebaceous, dermoid, including the pilonidal variety, hygromatous cysts, mid-line and lateral embryonic cysts of the neck, *etc.*, require complete extirpation, otherwise there will be recurrence of the cyst or a persistent sinus will follow. Such half-way measures as incision, cauterization, packing or incomplete removal of the cyst will practically always result in failure to effect a cure. On the other hand there are many types of simple cyst that will heal after ordinary drainage operations. A most striking example can be cited in simple, uncomplicated hydrocele of the tunica vaginalis. Aspiration-injection, marsupialization-drainage, and resection or eversion of the hydrocele sac are methods that have been and still are being used in the successful treatment of this condition. It is my belief (based on my experience in my first and second cases of mesenteric cyst), in selected instances of single, thin-walled, serous, sanguineous or chylous cysts, the removal of the greater part of the cyst membrane, with closure of the incision in the mesentery, bringing the remaining segment of cyst in contact with the raw surface of the mesentery—that it will prove to be a perfectly satisfactory operation. It could be modified by placing a simple wick or cigarette drain into the intramesenteric space, from which the cyst was removed, but the first suggestion, of closure without drainage, is believed to be a better one.

CONCLUSIONS.—In June, 1927, the excellent article of Swartley, of Philadelphia, was published, giving a comprehensive review of the whole subject and bringing up-to-date the most recent opinions on the genesis, classification, diagnosis, and management of mesenteric cysts. Before his paper appeared I had stumbled upon three such cases and had operated upon them without ever having considered the possibility of such a surgical condition. The text-books consulted at that time gave little or no information on the subject, and the same is largely true today.

The impressions gained from my own experience and from a rather extensive study of the literature on mesenteric cysts are:

(1) If all the cases met with in practice could be put on record, the condition would no longer be considered rare—only relatively rare.

(2) Unless teachers of surgery make occasional mention of and unless future works on surgery place more emphasis upon this topic, failures to make correct pre-operative diagnoses will continue to be the rule and surgical mortality and morbidity will remain unnecessarily high.

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